ORIGINAL ARTICLE

Obesity and Smoking are Risk Factors for Deep Vein Thrombosis in general population - a comparative clinical study

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ABSTRACT

The present study was conducted in Jinnah hospital Lahore. Patients were selected from Medical, Cardiology and Surgical wards. 150 subjects were selected for this study and divided them into three groups. Smoking alone or associated to other specific factors increases the risk of vein thrombosis. According to different researchers over body weight is a major factor of venous thromboembolism. In this study 50 individuals were obese and 50 were smokers their problem of deep vein thrombosis had shown the percentage levels (34.33±10.2), (20.13±2.2) as compared to the control comparatively. The results are significant (<0.05).

Keywords: Deep vein thrombosis, smoking, obesity.

INTRODUCTION

Annually about 1900,000 to 3800,000 patients are affected with deep vein thrombosis in all over the world. When blood flow in the veins becomes too slow blood cells produce a solid mass called blood clot or thrombus veins[1]. Formation of blood clot in a vein deep inside body is called deep vein thrombosis (DVT)[2]. Through different studies it has seen that deep vein thrombosis most likely occurred in lower abdomen. Deep vein thrombosis (DVT) is a very serious complication. Different researchers through their research concluded that deep vein thrombosis is a frequent complication of various surgical procedures[3]. The most fearful sequel of deep vein thrombosis is pulmonary embolism[4]. Clinical studies showed that major Orthopaedic surgery of lower limbs makes a patient at high risk for deep vein thrombosis.

Smoking and obesity are two independent risk factors for deep vein thrombosis. Cigarette smoking is associated with a slightly increased risk for deep vein thrombosis. Impact of smoking in cardio vascular disease has proved in many studies[4,5]. A study stated that thrombotic events during smoking had increased [6]. Researchers described through their research that the mechanism of smoking impacts on blood is very dangerous because in smokers the activities of platelet predisposes them to blood clots. Platelets regulate clot formation, which are a primary cause of heart attacks [7]. The finding of these researchers indicates that chronic smokers-even those who look and feel healthy-have an active disease in their blood vessels[8].

Obesity increases the pressure in the veins especially in the low limb. A study claim the chemical composition of blood changed by obesity which leads to inflammation and because of this blood become more prone to clotting [9,13]. Obesity is an important risk factor for deep vein thrombosis in both men and women [9]. Many investigations reported that obesity causes deep vein thrombosis therefore about 37% general population are on the risk of cardiovascular complications[10]. On the other hand some investigations described an increased risk ratio for deep vein thrombosis in women [12].

MATERIAL AND METHOD

The present study was conducted in Jinnah hospital Lahore. Patients were selected from Medical, Cardiology and Surgical wards. 150 subjects were selected for this study and divided them into three groups. In Group A, 50 subjects were normal and this is a control group. While in Group B, 50 subjects how were smokers with deep vein thrombosis while in Group C, 50 subjects were obese in the same medical situation. The results were expressed as the means±SD of groups. The means values were analyzed by one way (ANOVA) while all parameters were analyzed by SPSS.

RESULTS

Table: Comparative study of Group A, Group B and Group C

Parameters	Subjects (n)	Deep vein thrombosis	Means ± SD (%)
Control	50	Negative	00.0±0.0
Obesity	50	Positive	34.33±10.2
Smoking	50	Positive	20.13±2.2

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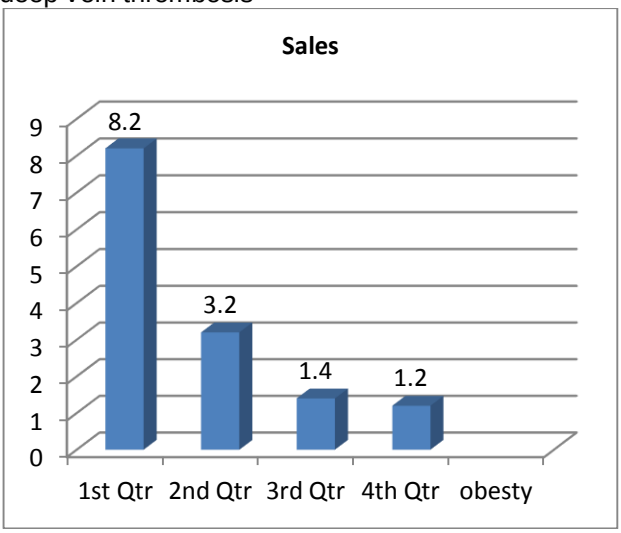
Green and blue area is obesity and smacking red is deep vein thrombosis



Deep vein thrombosis (DVT) occurs when a blood clot or thrombus developed in a large vein of the body. Any factor that interferes with circulation or promotes clotting can increase a person's risk for DVT, and many cases have multiple causes. The statistical data in the Table presented comparatively significant changes in the individuals of Group B and Group C than Group A. In this study 50 individuals were obese and they have problem of deep vein thrombosis with the percentage value of mean standard deviation (34.33±10.2) as compared to the control. Similarly smoking individuals in Group C had shown levels (20.13±2.2) of deep vein thrombosis as compared to the control comparatively.

DISCUSSION

Deep vein thrombosis developed when blood clot is deposit in the major vein of the body. There are number of causes of this problem but lack of movement, obesity, smoking, cancer, hormonal birth control, pregnancy and the period following birth, and certain genetic conditions are very common [11]. Scientifically a cigarette composed of about 600 different ingredients; most of them are also found in cigars and hookahs. After burning these ingredients produce 69 more dangerous chemical compounds which create cellular toxicity even genotoxicity in the body [13]. Smoking damages the cardiovascular system. Blood vessels become tighten by the effect of nicotine which restricts the flow of blood and ultimately lead to deep vein thrombosis. Obesity is a very serious, chronic disease which creates very bad impacts on body systems[10]. People who are overweight or obese have a much greater risk of developing serious conditions, including Heart disease[14]. This study exactly in the same fashion describing the effects of obesity and smoking in the population. This research presented significant results.

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